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THOMAS G. NEWMAN, Editor.

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Their Chaste Salutes are not misplaced
When women kiss a friend or brother;
But of life's *honey* what a waste
There is, when women kiss each other.

"How to Produce Comb Honey" is the title of a new pamphlet of 12 pages, by George R. Hilton, of Fremont, Mich. The size of the pages are 4x6 inches, and the price 10 cents. It is the substance of an essay read at the joint meeting of the State Farmers' Institute, and Fremont Progressive Bee-Keepers' Association last February. It can be obtained at this office.

Every One Needs a Calendar for the New Year, and will appreciate the elegant one designed and engraved on steel for Messrs. Dolliber, Goodale & Co., of Boston, Mass., who will mail it to any one upon receipt of ten cents in stamps or cash. It is one of Lovell's finest steel-plate engravings, and is by far the handsomest calendar which we have ever seen.

Only One Book of History with every club subscription to the AMERICAN BEE JOURNAL and New York *World*, is all that we can offer. The book is worth the whole money to be sent, and then you may consider the other two papers as a free gift.

Give Proper Credit.—Several bee-papers have copied the report of the Chicago convention from the AMERICAN BEE JOURNAL without giving any credit for it. As we paid the reporter for attending the sessions and writing out the proceedings, it is our private property, and any periodical which copies it should in common honesty, give the AMERICAN BEE JOURNAL proper credit for it. If it does not wish to do that, then let it send a reporter to the convention and get it in a legitimate way.

Colored Bee-Keeper.—It has often been said that but few bees were kept by colored men. The following item is from an exchange, and shows that one colored man, at least, is a proficient apiarist:

The first premium for the best display of honey at the Alabama State Fair was awarded, jointly, to R.C. Bedford and Robert De Jernette. The latter being a Negro, the *Advertiser* speaks in high terms of him both as a skilled apiarist and an industrious and worthy citizen.

Mr. T. W. Cowan has arrived at his winter residence in Switzerland, and by a letter from him we learn that he had a very rough ocean passage, but arrived in safety, and that the journey was very beneficial to Mrs. Cowan's health. He speaks enthusiastically of the very kind reception he met among the apiarists of America. He intends to write a series of articles for his paper, the *British Bee Journal*, during the coming winter, concerning American apiculture, in which he promises to "do full justice to American bee-keepers."

Upon arriving at Horsham, his English residence, he found that a triumphal arch had been erected, made of bee-hives, evergreens, and flags, with the word WELCOME in large characters. There was general rejoicing among the people, that Mr. and Mrs. Cowan had returned in safety.

Knowing that his many friends in America will enjoy the reading of these particulars, we have given place to them, and congratulate our friends, Mr. and Mrs. Cowan, upon their reception "at home."

Prof. Wiley's Resignation is now called for, not only in Kansas but in New England, as will be seen by the following paragraph in the New England *Homestead*, a paper of wide influence, full of pluck and enterprise. It says:

It is apparent that the resignation of Prof. H. W. Wiley, Chemist of the National Department of Agriculture, will be requested at the close of this season's work in the sorghum sugar experiments. Such a course will do much to clear the air about Commissioner Colman.

A man occupying such a position should have known enough to try to remedy the evil effects of the silly lies he invented about the "manufacture of combs out of paraffine, and filling them with glucose by machinery." But Prof. Wiley has never done anything to arrest the multitudinous repetition of the story in the papers of the World. Even when he is informed about the sad havoc it is playing, and its injury to the pursuit of bee-keeping, he simply laughs in his sleeve, and apparently "enjoys the *fun*." Such a man in the position of "National chemist" is a *National disgrace!*

An Enthusiastic Apiarist, and there are many thousands of them; indeed, it may be truthfully said that "the woods are full of them," wrote the following for one of our farm exchanges:

An experienced apiarist declares that the modern improvements in bee-keeping, including the movable comb-hive, the honey extractor, comb foundation, and the safe methods of wintering, make bee-keeping a pursuit which may be indefinitely developed. Indeed, it may be so followed that, from its wide diffusion over our country, and from the value of its products, it may be truly called a great National industry.

This is how a Label for extracted honey reads from a Rhode Island apiary:

Pure Honey—Extracted (thrown from the Comb by Machinery). Warranted gathered by my bees from the Natural Sources.—Samuel Cushman, Pawtucket, R. I.

Mr. Cushman has done well. It establishes a reputation for pure honey to have a distinctive and attractive label. It is neat, concise, and reads enticingly.

The Langstroth Book.—Concerning the revision of this book and its publication next spring, Mr. M. M. Baldridge, of St. Charles, Ills., writes us as follows:

The following extract from a letter from Dadant & Son, dated Nov. 30, received by the writer, may be of interest to all the readers of the bee-papers, and so unknown to them, I take the liberty of making it public, trusting no harm, but much good, will ensue in doing so:

"The revised work of Father Langstroth will probably be ready by next spring, and, judging from the number of inquiring friends, we anticipate a ready sale for it. As soon as it is ready for the press, or rather, for sale, the readers of the bee-papers will be duly informed by extensive advertising. We have been delayed in the revision of the work by different causes, independent of our control, but we think we have now overcome all the obstacles, and that the balance of the work will soon be completed."

The revision of Father Langstroth's book is certainly in the best of hands, and I sincerely hope that Messrs. Dadant will be able to give us the opportunity to peruse it by the time indicated.

We hope that this important book will be published soon, for so many are very anxious to possess a copy of the latest revision. As Messrs. Dadant & Son are making thorough work of it, we may all with patience await its advent.

Not Cincinnati.—Concerning the location of the next meeting of the North American Bee-Keepers' Society, Mr. C. F. Muth writes us as follows:

I am sorry that Toledo was selected for the next place of meeting of the North American Bee Keepers' Society, and not Cincinnati. The great majority of our brethren will visit Cincinnati during the Centennial Exposition next summer and fall. There would be a chance for a grand meeting had Cincinnati been selected. The attraction of the Centennial, general reduction of fares for three or four months, free use of a nice hall, all combined should have been an inducement.

We should have preferred Cincinnati for the next meeting, but were not present when the vote was taken. We are sorry that Mr. Muth was not here to advocate the claims of Cincinnati.

Photographs of Bee-Keepers.—We have purchased a lot of the "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a photographical sketch of each one, and will send it and the BEE JOURNAL for one year for $1.75, or will present it free by mail to any one for a club of three subscribers and $3.

To Delinquents.—After Jan. 1, 1888, we shall discontinue sending the AMERICAN BEE JOURNAL to those who have not responded to the bills we sent out a few weeks ago. This does not mean that we shall try to *deprive* any one of the pleasure of reading the BEE JOURNAL who really desire its continuance, but find it difficult to pay now. Such can get a short extension of time by asking for it. We should be sorry to lose any subscriber who wishes to have its weekly visits continued, but do not want any to continue to take it who do not think they are getting the full worth of their money. We are contemplating many new features and improvements for next year, which we shall mention in detail in future.

QUERIES

With Replies thereto.

[It is quite useless to ask for answers to Queries in this Department in less time than one month. They have to wait their turn, be put in type, and sent in about a dozen at a time to each of those who answer them; get them returned, and then find space for them in the JOURNAL. If you are in a "hurry" for replies, do not ask for them to be inserted here.—ED.]

Why Bees Eat off Foundation Starters.

Query 499.—Why do the bees eat off the comb-foundation starters in the sections?—Calif.

For lack of employment.—W. Z. HUTCHINSON.

To use the wax in some other spot.—DADANT & SON.

It comes either from mischievous idling, or from imperfect foundation.—JAMES HEDDON.

The foundation may be too thin, or the bees may have nothing else to do.—J. P. H. BROWN.

Perhaps because the foundation was very thin, and little or no honey to store.—C. C. MILLER.

I do not know, unless for the same reason that the bee went in the boy's ear.—H. D. CUTTING.

They do not with me, if they are getting honey. Perhaps it is to keep out of mischief, unless that is mischievous.—A. J. COOK.

Bees do not eat off the comb foundation starters when there is enough honey coming in to enable them to build comb. At other times they will.—G. L. TINKER.

Who can tell? When no honey is being gathered they do it out of pure meanness. Do they do it when gathering honey? In asking questions, full data should be given, if correct answers are expected.—J. E. POND.

Because "Satan finds some mischief still for idle hands to do." A good yield of honey causes them to add to the starters rather than eat them off.—G. M. DOOLITTLE.

Because they have nothing else to do. I never had them to nibble off and waste the foundation starters at a time when there was honey in the flowers. But they will use the wax to stop cracks with, mixing it with propolis, if given to them at a time when there is no honey in the flowers, or no flowers to secrete honey. I have found, however, that they will not waste the wax after they have begun to draw out the foundation starters, whether they are gathering honey or not.—G. W. DEMAREE.

Either they intend to use the wax elsewhere, or they are inclined to be mischievous. During a honey-flow they would work on the starters and rapidly increase their size, rather than destroy them.—THE EDITOR.

Making Foundation for 50 Colonies.

Query 500.—Will it pay to purchase a mill and make my own comb foundation for 50 to 100 colonies of bees?—Iowa.

I think not.—JAMES HEDDON.

It would be unprofitable for *me*.—W. Z. HUTCHINSON.

No, not if your time is worth anything to you.—J. P. H BROWN.

I use the Foster molds, and I think that pays. The cost is trifling, and one pound of wax can be worked as well as 50 pounds can be.—G. M. DOOLITTLE.

It all depends upon circumstances, and the person interested has much to do with it. Unless the circumstances are very favorable, it would be cheaper to buy the foundation for 50 colonies than to try to make it.—H. D. CUTTING.

I have always thought best to buy my foundation, even with 300 or 400 colonies; but if your time is unoccupied, it may be best to make your own foundation.—C. C. MILLER.

No, not when you can buy better foundation than you can make yourself, without making a great outlay for proper fixtures, at only a slight advance above the first cost of the wax.—G. L. TINKER.

It would not pay me. You must buy an outfit, and have a suitable room to operate in; you must work up wax that costs as much as anybody's wax does, and there is nothing left you but the margin between the price of the wax and the price of the foundation when finished. I know several persons who manufacture their own foundation on a small scale, and I have to see the first sheet of it that comes up to my idea of a first-class article. The large, well-furnished foundation factories turn out the best foundation.—G. W. DEMAREE.

It depends largely upon your locality. Ordinarily it would not for myself at present prices. If bee-keeping is the sole occupation, it would probably pay, as it could be made at times when there was nothing else that could be profitably done. The price of wax, however, would form an important factor even then.—J. E. POND.

To make comb foundation is a trade; to make as good an article as can be purchased, requires much experimenting, loss of time and material, and these, when added to the disagreeable work of its manufacture would outweigh every other consideration, and compel us not to manufacture it, when it can be purchased at a reasonable price.—THE EDITOR.

Convention Notices.

☞ The Ontario Bee-Keepers' Association will hold its annual meeting at Woodstock, Ontario, on Tuesday and Wednesday, Jan. 10 and 11, 1888.
W. COUSE, *Sec.*

☞ The Susquehanna County Bee-Keepers' Association will meet at New Milford, Pa., on Jan. 7, 1888. Subjects for discussion: "The Best Way to Prevent Swarming," and "Is it Advisable to Italianize Colonies?" All bee-keepers are cordially invited.
H. M. SEELEY, *Sec.*

Correspondence.

This mark ⊙ indicates that the apiarist is located near the center of the State named; ♂ north of the center; ♀ south; ○→ east; ←○ west; and this ♂ northeast; ←○ northwest; ○→ southeast; and ♀ southwest of the center of the State mentioned.

For the American Bee Journal.

Packing Bees for Winter.

J. A. BUCHANAN.

What is there in the idea of packing bees for winter? I have asked this question of a great many bee-keepers in this locality, and the answer is almost invariably, "Nothing at all." When a colony has been packed with several inches of dry chaff or other good material, we say, "Now the bees are in good condition to endure the coldest winter that may come." But, is this true? If you say "yes," I will ask, why it is that we see, after a terrible, long, cold winter, so many reports like the following? "I put a splendid apiary into winter quarters; the hives were thoroughly packed after the most approved manner, but there are only a few feeble colonies left to tell the story." And continuing the sad refrain, he says: "I have just purchased quite a number of strong colonies in box-hives, and will stock up again as fast as possible."

Now it seems to me that when I see such frequent reports like the above, it is "giving away" the packing system without reserve.

I have thought, to account for the many failures, bees were packed in this wise: A packs his bees in chaff hives with cushions all around the cluster; while B has his colonies in single-walled hives exposed alike to sunshine and rain. Winter begins with a grip of icy coldness, with no "let up" for three long months, when there comes a few brief hours of sunshine, with a fleeting, balmy breeze which react and revive the bees in the thin hives, and taking advantage of the opportune moment, they quickly sally forth for a cleansing flight, and are now in a condition to withstand another long, cold spell. But not so with the bees in the thick-walled hives. The sun has not shone long enough to react and revive them in time to bring them out at the proper time; and before another warm spell comes, so loaded with feces have they become, that every day a few leave the hives to relieve their overloaded intestines, which is fast producing disease and death.

Spring-time comes again, and the more lovely and joyous it is because of the severity of the winter that has preceded it; but there is no hum of peaceful content lingering near the entrances of A's chaff-packed hives, and only the sharp notes of plunder come from B's strong colonies in the single walled hives.

Show me a ten-frame Langstroth hive with one frame removed, that more bees may pack together in the ranges; plenty of good honey and plenty of September and October hatched bees; a honey-board or good quilt well waxed down; a good, roomy entrance kept open; a perfect water-tight roof, and in a place sheltered from the prevailing winds, and I will have no forebodings as to this colony coming through any winter, even if its only protection is a box made of ⅞-inch lumber.

Ordinarily there is a saving of stores where bees are warmly packed, but aside from this one advantage, no other presents itself to me. For many years I have kept from 75 to 100 colonies, half of them being in chaff hives with the usual paraphernalia of quilts, cushions, etc.

Again, I will admit that a weak colony can be brought through the winter when contracted to a small space and well packed, more successfully than it might if left in a large hive; but this amounts to nothing, from the fact that where the bees have been during the summer and fall, in a normal condition, and still go into winter in such poor condition as to require such careful nursing to keep them in existence, their kind should perish! It will not prove profitable to propagate this kind of stock. I believe in the doctrine of the "survival of the fittest," and the fittest only should be permitted to perpetuate the race.

Last April, an old gentleman stopped at my house to see if I would buy his bees. He had 15 colonies in box-hives. He said that they were "all livin'," but did not know anything about their condition, as he had become so afraid of them that he would not go near them any more. He offered them for $20, and being so low in price, I then paid him his price, and told him that I would haul them home in a few days. I found them in the most dilapidated old hives that I had ever seen bees inhabit. Part of them had to be bound together so that they would not fall apart on the way. The hives were so large that I got, in transferring, good worker comb enough from each to fill ten Langstroth frames, and there was enough drone-comb and pieces mostly full of honey to fill a barrel.

Nearly all the entrances of these hives were from 1 to 1½ inches deep, besides other openings where bees passed out; but such powerful colonies I had never seen in April. I could but view them with astonishment. Musingly I asked myself this question: Of what use is our modern system of contraction, and careful, expensive packing, if bees will winter in such splendid condition as they have in these old excuses for hives? What do we know?

The honey crop of this State for 1887 was almost a failure. From 90 strong colonies I got but 1,100 pounds of surplus honey. The fall flowers yielded well, which put our colonies in good condition as to bees and honey.

Holliday's Cove, ♁ W. Va.

For the American Bee Journal.

The Bee and the Butterfly.

GEORGE W. YORK.

One summer day in the month of June,
A bee was humming a merry tune,
And as it went from flower to flower
It gathered the drops of the "honey-shower."

Thus while it toiled very hard and long,
And still was singing that cheerful song,
A butterfly happened to pass that way,
In its life so aimless from day to day.

Then to the bee the butterfly said:
"Why do you slave so hard to get 'bread?'
I get my food, and then *I* have pleasure;
But you never seem to get *any* leisure."

"Yes," said the bee, "what you say is true.
I lead a life far nobler than you;
I get my food, and much for my keeper."
Then into the flower the bee went deeper.

Soon it returned from out that flower,
And kept up its hum for nearly an hour:
Seeing the butterfly still at her ease,
Again it began, and said: "If you please,

"He lives in vain who toils but for self—
Often 'tis found that he gains by pelf;
While he who works hard, unselfishly too,
Will live long in hearts that soon forget you.

"Thus do I live for those who love me,
And my work, though small, will always be
Honored by all who like to eat honey,
That freely I store, without price or money."

Chicago, Ills., Dec. 6, 1887.

For the American Bee Journal.

A Rip Van Winkle Bee-Keeper.

M. M. BALDRIDGE.

On Thanksgiving Day, one of my correspondents wrote me as follows:

"I met a man in La Crosse, Wis., this week, who had come from Minnesota with 2,000 pounds of white clover honey, and had sold it to a commission man there for 12½ cents per pound! I went with him and saw the honey. It was in the square one-pound sections, made of one-piece, and was still in the top stories, in wide frames two tiers deep, and all built between separators. None of the propolis had been removed! I took out some of the wide frames and found every section plump, nicely sealed, and full at the corners. All I saw was as white as snow. The next day this honey was picked up by a Milwaukee house at 21 cents per pound for the whole lot—the empty supers and wide frames to be returned. Some of the supers had neither top nor bottom, having been shipped in that way! The gross weight of each super was 75 pounds, and 20 pounds were allowed on each as tare."

Now, can it be possible that this Minnesota honey-producer *reads* a bee-paper? If not, it might possibly be money in his pocket to do so. It does seem strange that honey-producers will allow the commission man and retailer more net profit on comb honey than they get for themselves. But such is often the case. Reader, how is it in your case?

St. Charles, ♁ Ills.

For the American Bee Journal.

The Hardin Co., Iowa, Convention.

The Hardin County Bee-Keepers' Association met at the Court House in Eldora, Iowa, on Saturday, Nov. 26, 1887. The convention was called to order at 2 p.m., with President Ely in the chair.

After the regular business was transacted, reports were made as follows:

President Ely had 80 colonies in the spring of 1887, increased them to 125 colonies, and obtained 1,640 pounds of comb honey, and 390 pounds of extracted honey, being a trifle over 25 pounds per colony, spring count. His bees are well supplied with honey, except possibly 4 or 5 late swarms that are rather light, but he thinks that they have enough for winter. He winters a part of his bees on the summer stands, and a part in the cellar.

Mr. Lindley said—I had 45 colonies at the beginning of the season; increased them to 55 colonies, and took 500 pounds of comb honey, a little over 11 pounds per colony, spring count. I increased by dividing colonies, on the nucleus plan.

This was the signal for a lively discussion. President Ely, Mr. Hand, and the Secretary would let the bees swarm naturally. Mr. Smith would divide a colony that refused to work in the sections, and showed signs of swarming by hanging out. This was concurred in by nearly all.

Mr. Lindley winters his bees on the summer stands, and uses chaff hives.

Mr. Hand was all ready with 30 good colonies last spring, and with "his dish right side up" to catch the expected shower of honey. As the season advanced, and no signs of surplus, he was tempted to kick the dish over, and join the column of "blasted hopes." However, he allowed the "dish" to remain, and when basswood bloomed he "caught" 500 pounds of nice comb honey, an average of 16⅔ pounds per colony; and his bees are all well supplied with honey. He also Italianized his apiary, and increased it to 41 colonies. He winters his bees in a cave, and thinks that this part of Iowa is too cold to use chaff hives. He used them successfully in Ohio, but cannot succeed in Iowa.

Mr. Webster commenced the season with 12 colonies, increased them to 15, and 2 or 3 swarms went away. He took no surplus honey, was away most of the summer, and the bees were neglected. He winters his bees in the cellar.

Mr. Smith had 11 colonies in the spring, increased them to 21, and took 102 pounds of comb honey, a little over 9 pounds per colony. The surplus was all taken from 3 colonies, the rest doing nothing in the sections. He winters his bees in the cellar.

J. W. Buchanan began the season with 6 colonies, obtained 100 pounds of comb honey (an average of 16⅔ pounds per colony), and increased his apiary to 7 colonies. He caught 3

stray swarms, by putting hives up in trees, thus making 10 colonies in all.

The summed up reports are: Total number of colonies in the spring, 184; total number of pounds of honey taken, 3,232, being an average of a little over 17½ pounds per colony; and number of colonies in the fall, 267.

As the day was a stormy one, and only a few members present, it was decided to postpone the election of officers until the next meeting. The subject for discussion at the next meeting will be, "International organization of bee-keepers," and the writer was appointed to open the discussion.

After some discussion on various subjects, the convention adjourned to meet on Dec. 10, 1887, at the Court House in Eldora, Iowa.

J. W. BUCHANAN, *Sec.*

For the American Bee Journal.

Fastening Foundation in Sections.

ED. S. EDEN.

In reviewing the different methods employed to fasten foundation into section boxes, it seems strange that some one has not invented a machine to do the work satisfactorily. Since the invention of comb foundation, the bee-keeping fraternity have striven to surmount this difficulty, but with very little success. Of the many machines so far invented, not one of them has given general satisfaction. I think that this is because the inventors do not consider sufficiently the difficulties to be overcome. Some are guided solely by the strength of the work, regardless of speed and neatness; while others are guided by speed, regardless of neatness and strength. A machine to give general satisfaction, must not only be rapid in its work, but must do it sufficiently strong and neat.

If foundation is fastened by dipping it into a melted mixture, or by pouring wax along each side to adhere it to the section, it will be found that this destroys the guide or wall to the top row of cells, and the bees will not draw them out, unless they are short of room, leaving a very imperfectly-filled section. But if the foundation is fastened neatly, they will draw the top row out equally with the rest, leaving a section filled in a superior manner.

This plan of fastening foundation by pressure has also its drawbacks, as it is almost impossible to get them all to stick, and especially if the section is smooth; for the substance used in lubricating the dies while manufacturing foundation, prevents the foundation from sticking to the wood by pressure. Some have adopted the plan of heating the section, and then pressing the foundation on the warm section. This plan I have tried, but with very little success. The trouble I had was, that the warm section prevented the foundation from "setting" sufficiently quick, necessitating it to be left in the machine till it became sufficiently cool, before removing it; and even then some would break loose with the least little jar, making it very annoying.

It is doubtful whether the plan of fastening foundation by pressure will ever be developed sufficiently to give general satisfaction. There are so many conditions that are absolutely necessary, to procure the best results, such as temperature of the room, pliability of the foundation, warmth of the section, etc., before the work can be performed successfully. It is to be hoped that some one of the many thousand bee-keepers will discover a plan that will give general satisfaction. I have no doubt that such a person would receive the thanks of every bee-keeper in the country.

If the difficulty of fastening foundation in the sections was overcome, I believe that bee-keepers would turn their attention to the production of comb honey more than they now are doing.

Eastwood, Ont.

For the American Bee Journal.

Scientific Breeding of Queens.

G. W. DEMAREE.

Mr. G. M. Doolittle, the well-known writer on practical bee-keeping, in his article on page 740, again refers to scientific queen-rearing, which he speaks of as "artificial." Mr. D. has a right to his own views, and has a right to express them in his contributions to the bee-literature of the times, but he must expect to have his views on this subject criticized. Most of us demand more than mere assertion, and mere theory, when it comes to settling an important question like the one under consideration. To my mind, what Mr. D. has written in the article under consideration—in fact, in all his articles that I have seen on this subject—is based on mere mistaken *theory*, except so far as he brings his own *experience* as proof of the soundness of his position.

My experience is the opposite of his. I do not say that I would not breed from a queen because she was reared by a swarming colony if I could trace her parentage back to pure ancestry, but I will say that I have never had the good fortune to cross a single specimen thus reared that was equal to my finest queens bred by selection under my own care, and in the absence of a resisting, outraged mother-bee.

It will be observed that Mr. Doolittle bases his whole theory upon the *presence* of the mother-queen while the young queens are being nursed. On these grounds most thinkers would judge that the theory was against Mr. Doolittle. Some years ago, when studying the habits of bees under the swarming-fever, I lifted out a frame on which was the first sealed queen-cell, right on the eve of an issuing swarm, and discovered the mother-bee circling around the first sealed cell which was strongly guarded by the workers. As an experiment I dispersed the guards with the end of a stick, when the old queen seized the opportunity to make a fierce attack on the cell. The guards being no longer interfered with, rallied and forced the enraged queen away. Some of the guards worried and bit her legs as she sullenly retreated. Why should not the "great haste" which Mr. D. puts to the other account, be most likely to be thought necessary in the case I have described?

It is true that young queens reared by bees to supersede old, worn-out queens, are generally of the best quality; but this is a different case. The old queen is generally spared till her successor has proven her good qualities. Besides, the facts show that the poor, old mother-queen, with a wonderful display of stoicism, acquiesces in the whole proceedings.

There has been a great deal said about the dry, indigestible stuff often seen at the bottom of cells after the young queens have emerged. On this we have another *built-up theory*.

The theory is, that such queens having been "highly fed" must be extra good queens. There is very nearly nothing in this but bare speculation, handed down from one author to another, and accepted as true without investigation.

The individuality of the queen honey-bee as pertains to the functions of a mother-bee, is the result of a state of development above her sister worker-bees, and this state of development to be normal in nature, must be under the circumscription of nature's laws. Every close student of the habits of bees ought to know that young queens are fed to excess, surfeited with food quite as often as they are stinted for the want of it. I have seen embryo queens deluged with so-called royal jelly till they come to nothing but big, bloated, white worms, and perished in that condition; and I have seen them so stinted with food that they were developed but little above the worker-bee. These facts show that *right conditions* are those which result in good queens, and not the presence or absence of the mother-queen when the young queens are nursed in their cells.

When it comes to facts and experiences, my experience differs from that of Mr. Doolittle's. All the extra-fine breeding-queens that I ever had in my apiary, were reared by what Mr. D. and others call "artificial methods;" i. e., they were reared under the care of myself or other skilled breeders.

I could bring forward the testimony of a number of intelligent bee-men, concerning the value of queens reared by me in the absence of the reigning queen; but I do not care to do it. It might have been a mere accident, but I have had a limited number of queens on trial in my apiary, from men who advocate the "swarming impulse" system of rearing queens, and not one of them showed any superior traits over the average queens in my apiary. One of these I paid $10 for, hoping to get an improvement on my home-bred queens; but she turned out to be in-

ferior to a majority of my queens. Mr. Doolittle and myself will agree that queens are not equally good, no matter how they are reared.

Christiansburg, Ky.

For the American Bee Journal.

The Western Bee-Keepers' Convention.

E. M. HAYHURST.

The Western Bee-Keepers' Society met to-day in this city at the residence of Mr. Peter Otto. The attendance was smaller than usual, but most of us took our "wives and babies," thus making quite a houseful of jolly company. Mr. and Mrs. Otto made us feel entirely at home, and entertained us right royally at the dining table, as well as in their parlors. Our meeting was an entirely informal and very enjoyable reunion.

The reports made indicate that there was not only no surplus gathered the past season by the bees in western Missouri and eastern Kansas, but that most colonies had to be fed for winter, the season being an entire failure. Those present seemed to take their misfortunes very good-naturedly, and "blasted hopes" was not even whispered; all of us are making the usual preparations for the hoped-for crop of next season.

A number of topics were energetically discussed; perhaps the most interesting of these being "foul brood." We listened with great interest to Mr. L. W. Baldwin's narrative of his own, his brother's, and Mr. Jones' experience during the past summer with this much-dreaded malady. Early in the season they found all of their apiaries badly diseased, some 800 colonies in all being affected. Out of all but one apiary they completely eradicated the trouble; the evident reason for their failure in the one yard being a slight deviation from the rule of treatment applied to all of the others. Their case is a good illustration of what can be done by intelligent, energetic action. A motion was passed requesting Mr. Baldwin to write their experience in detail for publication in the AMERICAN BEE JOURNAL.

A resolution was also passed expressing the gratitude of the guests to our kind entertainers, for their generous hospitality.

A few minutes before adjournment the following board of officers was elected for the ensuing year, viz: President, J. V. Coleman; Vice-President, L. W. Baldwin; Secretary, Peter Otto; and Treasurer, John Conser.

The convention then adjourned to meet in the latter part of next April, at the Court House in Independence, Mo., in a basket meeting; due notice of the date to be given by the Secretary.

In the absence of Secretary Nelson, the writer was requested, by the Society, to make the above report.

Kansas City, Mo.

For the American Bee Journal.

Canadian Linden Honey.

R. M'KNIGHT.

On page 693, is an article by Dr. Mason, entitled, "Basswood *vs.* Linden," in which he manifests a good deal of feeling towards his "cousins across the border." None of his remarks, already published or hereafter to be written, will deter Canadian bee-keepers from selecting their own names for their own products.

Had the Doctor confined himself to a refutation of Mr. Pettit's statements respecting the quality of "American" basswood or linden honey, none of us, I am sure, would have felt called upon to interfere; but he does not confine himself to this or even to our right to employ the term we have adopted, but charges us as a people with dishonesty and fraud, when he says:

"And now, after the 'Yankees' have established a name for their 'fine, richly-flavored crystal' basswood honey in the 'markets of the world,' especially the English market, it seems that the Canadians, wishing to take advantage of its popularity, have previous to, during, and since their 'Colonial Exhibit,' been pushing their basswood honey under a (to them) new name, calling it (in a 'wily' way) superior to 'American basswood' honey."

Here are two or three statements in the above paragraph which require to be better established before they can be accepted as correct. The "name and popularity the Yankees have established for their honey in the markets of the world, especially the English market," are not so desirable as to lead Canadians to envy them for the advantages it brings them; but, on the contrary, we were especially desirous, when in England, to steer clear of any association with "American" products of a like kind. Not because we consider your honey in any way inferior to ours, but because "Yankee" honey is in bad ordor with the English people.

It so happened, as the story goes, that once on a time an enterprising Yankee shipped some American honey to Britain, and when there he increased its volume by a liberal admixture of glucose. Bottling the mixture on the spot, he added to each bottle a tempting bit of honey-comb, and in this attractive form put it upon the market; but the bait did not take. The ruse of the Down-Easter was discovered, and the sins of that sharper are visited upon his countrymen to this day, as many of them who shipped honey to England since can testify. The injury and the insult has not been forgotten, and it will be some time yet before the confidence of Englishmen in the purity of "American" honey is restored. Englishmen are like a tamed elephant, "modest" and confiding until once deceived; but betray them once, and retribution comes soon and certain. No, no, Doctor, there was no "put up job" on our part to "rob you of the reputation" which your "fine, crystallized basswood honey" enjoys in England. We had, when in England, and have now, no other wish than that our honey should be known over there by the distinctive name "Canadian." Its good qualities are a sufficient passport to popularity.

Dr. Mason misstates the facts when he says that, "Canadians, in a wily way," or any other way, either here or elsewhere, have sought to destroy confidence in the good qualities of American basswood honey, and claim superiority for their own. I challenge him to name a solitary Canadian (apart from Mr. Pettit) who has made such a statement. "One swallow does not make a summer," nor one man a nation, and it is not generous on the Doctor's part to manifest such antipathy against his "cousins across the border, and their relatives across the pond," because one of our people holds and expresses opinions peculiar to himself, and in which his fellow countrymen do not sympathize. But we can afford to be disliked, for hate is an evidence of fear on the part of the hater, and power on the part of those hated.

As to the part I took in the adoption of the word "linden" as against "basswood," I have no apology to make, as I believe it to be the more appropriate of the two. Dr. Mason says: "Can it be possible, as Mr. McKnight says, that the term linden is at once more respectable and correct?" My answer is: "Yes, I believe it is at least more correct." This fact is established by Dr. Mason himself, for he has shown most conclusively that the term "basswood," as applied to trees, belonging to the genus *tilia*, are known by that name over a very limited portion of the territory upon which they flourish, and surely it is more correct to call the honey they yield by the name by which the trees are most generally known, than by the name least applied to them. Trees of the genus *tilia* are common to both Europe and America. Dr. Mason tells us that basswood is an unknown name for them in all parts of the United States, except a small portion lying north of central Ohio. They are not known by this name in England; neither is it applied to them on the continent of Europe.

But Dr. Mason complains that "linden" was employed by you to designate a particular kind of honey before it was in use here, and that we appropriated your brand. I accept the Doctor's statement, but when I gave my sanction to its adoption here, I was not aware that such was the case. But supposing we all knew it at the time, the Doctor should be more flattered than "riled" by the imitation, for I am sure our "linden honey" does the brand no discredit.

There is one other statement made by the Doctor which I cannot allow to pass unchallenged, as there is an insinuation in it that things were not conducted quite as they ought to have been by those who had charge of the Candian honey exhibited at the "Colonial." He says: "The *Canadian Bee Journal* also contained some

warm words about what was done with some of the $1,000 granted them by the government to help pay the expenses of the honey exhibit at the "Colonial." No warm words were ever indulged in by any one as to the way in which this grant was used. The "grant" was disbursed, not by those who had charge of the exhibit, but by the treasurer of the Ontario Bee-Association (who was not one of the delegates), and no adverse comments were ever made as to the way in which it was expended. The warm words of which he speaks had no reference to this grant.

Owen Sound, Ont.

For the American Bee Journal.

Tartaric Acid in Winter Stores.

JAMES HEDDON.

Away back on page 585, Dr. Jesse Oren propounds two questions, one to Prof. McLain, and one to myself. The question with which I am to deal, is regarding the addition of tartaric acid to the winter food of bees. Now, I presume the Doctor is aware that I am a practical bee-keeper, and in my answer, which is the only one I can truthfully make, the Doctor will not be compelled to accept any theories whatever.

I believe that I have never used, nor advocated using, tartaric or any other kind of acid in any wintering food for bees except that composed of cane-sugar syrup; this I put into that syrup simply and solely to prevent re-crystallization, and it is a well-demonstrated fact that nearly all acids have that tendency. I have used it in proportionately small and large quantities, and I have never been able to discern that in any quantity in which I have used it, it was detrimental to the health of the bees; and as I have stated before, the late M. Quinby, after making some experiments, was of the opinion (and was planning to demonstrate the truth of that opinion, when his useful labors were suddenly brought to an end by death) that the addition of acid to the winter food of bees, whether of syrup or honey, would act as a preventive to the dreaded bee-diarrhea.

So, you see, Doctor, I never sought acid as a medicine for bee-diarrhea, but rather as an antidote for crystallization of syrup—a food which is much superior to honey for the safe wintering of bees, so far as my experience has gone.

Dowagiac, ♀ Mich.

For the American Bee Journal.

A Dry Season—Alfalfa.

MARY A. GOODALE.

This has been a very dry season here as well as elsewhere. Crops of almost all kinds were nearly an entire failure, and consequently the honey crop failed also; yet I find that our bees have made their own living all summer, and have stored an abundance of honey to carry them through the winter, with but very little feeding, goldenrod being a good honey-plant in this locality, and growing in abundance.

I commenced the season with 20 colonies, bought one colony for queen-rearing, but the only use that I found for queens was in superseding, as I did not increase my colonies either by division or making nuclei; neither did I have any natural swarms, and consequently I consider myself in the same place I was one year ago, minus the amount paid out last spring for supplies, as I got very little honey, having sold but 50 cents worth.

ALFALFA IN COLORADO.

I have been reading of alfalfa as a honey-plant; also that it is extensively sown in Colorado. I have been searching the files of the BEE JOURNAL for information on the subject, but although I find there is a State organization of bee-keepers in Colorado, and that alfalfa is highly prized as a honey-plant both in California and Nebraska, yet I find nothing from Colorado on the subject. Now, I would ask some who are acquainted with both the plant and Colorado, to give their opinions in the AMERICAN BEE JOURNAL. Would it pay to emigrate to Colorado, taking the bees along? Who can tell us anything of the prospects of bee-keeping in south-eastern Colorado?

Clear Creek, ♀ Ind., Nov. 30, 1887.

For the American Bee Journal.

The Bee-Keepers' Union Convention.

The Central Illinois Bee-Keepers' Association met at Pittsfield, Ills., on Nov. 26, 1887, in connection with the members of the Pike County Bee-Keepers' Association, for the purpose of uniting the two societies. W. T. F. Petty, President of the Pike County Association, occupied the chair, and Wm. Camm was elected Secretary.

On motion, the two societies were united under the name of "The Bee-Keepers' Union," when the following officers were chosen for the ensuing year: S. N. Black, of Clayton, Ills., President; J. M. Hambaugh, of Perry Springs, Vice-President; Thomas S. Wallace, of Clayton, Secretary; and Jno. G. Smith, of Barry, Treasurer.

It was decided to hold the next meeting at Clayton, early in October, 1888, the day to be fixed by the President.

The following are reports of colonies, the crop, and the condition of the bees for winter:

W. T. F. Petty, of Pittsfield, 90 colonies, spring count, 105 colonies fall count; 700 pounds of comb honey, and 200 pounds of extracted honey. The condition of his bees is good.

T. S. Wallace, of Clayton, 110 in the spring, and 100 colonies now. He had no honey, and the condition of his bees is poor.

J. G. Smith, of Barry, 15 colonies in the spring, and 14 colonies now. He had no honey, but the condition of his bees is good.

W. H. Raftery, of Pittsfield, 74 colonies in the spring, and 90 colonies now; 200 pounds of comb honey, no extracted, and the condition of his bees is fair.

John Pickup, of Pittsfield, 7 colonies in the spring, 14 colonies now; 28 pounds of comb honey, but no extracted. His bees are in fair condition.

C. T. Lame, of Horton Station, had 37 colonies in the spring, 44 colonies now, and took 200 pounds of comb honey, but no extracted. His bees are in fair condition.

Jos. Dober, of Atlas, had 11 colonies in the spring, 18 now, and took 300 pounds of comb honey, but no extracted. His bees are in good condition.

W. Camm, of Murrayville, had 96 colonies last spring, and 90 colonies this fall. He took 500 pounds of comb honey, and 700 pounds of extracted. His bees are in fair condition.

J. M. Hambaugh, of Perry Springs, had 138 colonies last spring, and 160 colonies in the fall, 22 being purchased. He had no comb honey, but 1,250 pounds of extracted honey. His bees are in fair condition.

Mr. Petty's bees had been moved to the Mississippi river bottom for a fall crop. Mr. Hambaugh's bees were put in the cellar on Nov. 10 to Nov. 21; the bees of other members being out-of-doors yet.

On motion, the meeting adjourned without formal discussion of any questions, as the weather was so rainy as to prevent many from attending.

WM. CAMM, *Sec.*

For the American Bee Journal.

Season's Results, Marketing, etc.

WILLIAM CRAWLEY.

I wintered 20 colonies in the cellar last winter, without any loss, except one queenless colony, and one-third of them were very weak. I increased them to 45 good colonies, and I have taken 1,000 lbs. of extracted honey, and 500 lbs. of comb honey in 1-lb sections, being 75 lbs. per colony, spring count. About two-thirds of it was linden honey, and the balance was from fall flowers. I have fed 250 lbs. of granulated sugar for winter stores. They were not short of honey, but I fed part of them syrup, as an experiment.

My honey is about all sold, and at home, too. Extracted honey sold for 15 cts. per lb., and comb honey for 20 to 25 cts., according to grade. I will give my method of selling honey, as it may be a benefit to some, and be the means of supplying our home market at a better price than we would get by sending it to commission-men. It is as follows:

Redwood Falls has a population of 1,500, with 6 groceries. I supply all these stores with a moderate amount of both comb and extracted honey, and I make the price for which they are to sell it, with the understanding that all I can use in trade shall be sold without any commission to them; but

if I take money, they are to have a small commission for selling it. But I find that I can use the most of it in trade this year, and save me just so much money.

The above plan has worked well with me. The merchants have no money invested, and I find that they will not ship in honey if they can get it at home, as extracted honey is generally candied, and the comb honey is badly smashed up in shipping. The method can be carried to an unlimited extent, as my business increases and as there are a dozen towns within a radius of 30 miles of this place.

I exchanged honey and hives for 12 colonies of bees this fall, so that I now have 55 colonies in good condition in the cellar under the kitchen. I put them into the cellar on Nov. 19.

I have a foot-and-hand power saw, which for economy and fine workmanship in the apiary cannot be excelled. I make the most of my hives and fixtures with it. The hive I use is my invention, and from the past season's experience I think that it is just what is needed in this climate. It is an 8-frame hive, the same depth as the Langstroth and 1 inch shorter, so that a super holding 4 tiers of 4¼-inch sections will just fit the hive. The supers are what is called the "blank-strip section-case," or similar to it. I can use separators or not, as I like. I find that the contraction of the brood-chamber is very valuable when working for comb honey.

Redwood Falls, Minn., Dec. 6, 1887.

Botanical Gazette.

How Bees Extract Pollen from Flowers.

PROF. CHARLES ROBERTSON.

In regard to the visitors of *Asclepias Cornuti* (common milkweed) Dr. Hermann Muller observes that they "slip upon the smooth parts of the flower until a foot enters the wide inferior part of the slit, in which it at lasts gets a firm hold." Mr. T. H. Corry describes the insect as grasping the back of a nectary, and plunging its proboscis into its cavity, "endeavoring at the same time to get a firm and sure foothold on the unstable flowers," until the insect at length places one of its feet into the wider part of an alar fissure.

Having collected insects on the flowers of six species of Asclepias, I regard the normal action of the most common and most efficient to be that they hold on to a flower, or several flowers, in such a way that their feet go down below the angles of the alæ, and when the legs are drawn upwards they are caught between the strongly projecting hoods and guided by them over the entrance of the stigmatic chamber, which occupies the narrow interval between their bases. Of native insects, the most common visitors I have observed on A. Sullivantii, are humble bees (Bombus separatus B. Pennsylvanicus, and B. scutellaris) and Danais Archippus. The feet of humble bees reach down as far as the bases of the petals, and I have often found the pollinia fastened upon their tibial spurs as well as on their claws. I have also found pollinia of this species on the spurs and claws of Danais Archippus, and high up on tarsal hairs of Priononyx Thomæ.

In a similar way, a specimen of Scolia bicincta shows pollinia of A. Cornuti on the tarsal hairs. However, the gynostegia of these species are so large that the feet of many visitors will not reach far below the angles of the wings, and, when this occurs, the claws are the only parts which are readily caught. The importance of the hoods in guiding the legs of insects over the angles of the wings, is more apparent in the smaller flowered species, since the more delicate wings catch hairs which are not only very fine and short, but which are also situated much higher up on the legs. Thus, hive bees caught on A. Sullivantii and A. Cornuti, show pollinia only on their claws and pulvilli, but they have the pollinia of A. tuberosa, A. incarnata, and A. verticillata scattered upon the hairs of the tarsi. A specimen of Argynnis Cybele, which I caught on A. Cornuti has pollinia of this plant on its claws, and pollinia of A. tuberosa on the tarsal hairs.....

H. Muller, who supposes that the whole foot enters the stigmatic chamber, says: "When the insect tries to draw its foot out in order to proceed further, the diverging claws are caught by the apposed edges of the anther-wings, and guided upwards in the slit, so that one or other of the two claws is brought without fail into the notch in the lower border of the corpusculum and there held fast."

On the same subject Mr. Corry says: "When the foot reaches the superior end of the alar chamber in which it has been guided, one at least of the two hooked claws upon it, or some part of the foot in the case of Diptera, must easily enter the hollow cavity of the corpusculum, which lies in such a position that this result is inevitable."

The importance which these authors attach to the view that the whole foot enters the chamber, in my opinion, rests on a misunderstanding of the mode of insertion of the pollinia, and has led them to overlook the precision with which a corpusculum comes to be fastened to a hair or claw. The corpusculm is placed so nicely at the top of the wings that its cleft is fairly continuous with the slit between them, and I cannot conceive that the contrivance works normally unless the particular part, *i. e.*, a single claw, hair, or pulvillus to which the corpusculum becomes attached, is caught between the wings and guided by them into the cleft.

Believing that all processes are caught as the leg of the insect passes over the angle of the wing, I suppose that only a single process is caught, and that a claw is caught in exactly the same manner as a hair or spur. In a careful examination of the feet of 116 hive-bees which were killed by being caught on the flowers of A. Sullivantii, I have found that, with but two exceptions when a foot was held by the wings, only one claw was between them, the other being free, or less often the pulvillus was held between the wings and both claws were outside.

When first withdrawn the pollinia lie in the same plane. In a few minutes the twisting of the retinacula brings the pollinia into nearly parallel planes, but the upper ends are still separated by quite an interval. According to the authors to whom reference has been made, the pollinia are inserted by the corpusculum. From the analogy of observations made on the movements of the pollinia of some Orchidaceæ some advantage might be looked for in the slow movement of the pollinia of Asclepias. Indeed, Mr. Corry, who has observed this phenomenon in A. Cornuti, states that it is of advantage, although he fails to show it; and I think it impossible so to do on the supposition that the pollinia are introduced by the corpuscula. He says:

"Some considerable time, moreover, must elapse after the pollinia are extracted before the corpuscular appendages are so far dried that both pollinia of the same corpusculum can be introduced through the fissure into the alar chamber, and in the meantime the insect has had time to reach another flower or plant."

On another page he observes: "If the movement did not occur on the part of the pollinia, their broad surfaces would lie at right angles to the alar fissure, and their insertion into it in this position through the notch would in consequence be rendered a much more difficult, if not an altogether impossible, operation; or else the pollinia in being slipped in would become folded in the opposite direction, and the less curved border which emits no pollen tubes would be first inserted into the fissure." But what is to prevent this consequence before the movement takes place? Whatever might happen there is obviously nothing to render the introduction of the corpusculum itself more difficult before the movement occurs than afterwards, so that the slowness of the movement is hardly an advantage under this view. If the corpusculum were very slender or flattened so that a thin edge could be presented to the slits, there would be no difficulty in understanding how it could readily slip into the stigmatic chamber; but it is a rounded body, and is relatively large in comparison with the entrance to the cavity.

Of course, if the whole foot of an insect commonly enters the stigmatic chamber, it is not hard to understand how the corpusculum should go in with it. But when the corpusculum is fastened to a hair which is directed outward and downward from the leg of the insect, and which is often so short that the corpusculum is fairly in contact with the leg, the difficulty increases.

In the examination of the feet of hive-bees killed on the flowers, I have failed to find a single case in which a corpusculum was attached to that part of the foot which was held between the anther wings. In my opinion, therefore, the structure of the

corpuscuulm is so far from facilitating the introduction of the pollinia that it prevents the part to which it is attached from being again caught in the slits; and, until the movement occurs, the corpusculum with its two pollinia will pass over the entrance to the stigmatic chamber without being injured.

After the movement occurs, if the corpusculum be examined from one side, it will be observed that the retinacula project outward and downward. Since the parts to which the corpuscula are attached themselves project outward and downward, the retinacula finally stand nearly at right angles to the leg of the insect. The retinaculum, near the point where it joins the pollinium, is bent rather suddenly, so that the pollinium appears to be flexed upon it. This flexure, which Mr. W. H. Leggett has called the knee, is very prominent.

There is quite an interval between the knees and the membrane of the retinaculum at the knee is expanded transversely to the plane of the pollinium. Robert Brown has observed in A. purpurascens, that the part of the retinaculum extended between the knee, and the pollinium remains attached to the latter when it is found in the stigmatic chamber. This expansion of the membrane serves to prevent the withdrawal of the pollinium after it has been inserted into the cavity, and, when drawn against the closely opposed edges of the alæ in the upper part of the stigmatic chamber, facilitates the rupture of the retinaculum.

Judging from the structure of parts which are readily caught between the anther-wings, nothing could be more natural than for one of the knees to slip into the entrance to the stigmatic chamber, and the movement is intended to turn them into such a position that this will occur. When, therefore, the movement has taken place, and the insect draws its leg over the angle of the wings, the corpusculum with the claw or hair to which it is attached, passes on without being caught, while one of the knees of the pollinia readily enters the stigmatic chamber, and the pollinium enters with it. When the knee has reached the upper part of the cavity, and will go no further, the retinaculum is torn across and escapes, leaving the pollinium in position to effect fertilization.

In repeated trials at artificial pollination of the flowers of A. Cornuti, A. Sullivantii, and A. incarnata, I succeeded three times, in the case of A. Sullivantii, in separating the pollinium from the retinaculum without withdrawing the latter from the slit, and thus was enabled to insert a pollinium, and to draw out a corpusculum at the top of the alæ with its two pollinia by the same movement. But in all other cases a pull that seemed sufficient to break the rectinaculum freed it from the slit so that the corpusculum at the top remained intact. Accordingly, I have seen no difficulty, on the supposition that the pollinia are introduced by the knees, in the observation of H. Muller, who says:

"In several flowers which I dissected, the corpuscula and pollen masses were still in their places, though pollinia, which must have come from other flowers, had been inserted into the stigmatic chamber."

In a number of cases observed by me on A. Sullivantii, the movement which turns the knees toward the flower is completed in about seven minutes, though it has proceeded sufficiently in five minutes to turn the flexure far enough to render its insertion quite likely. With the view of pollination stated in this paper, the slow movement is plainly of advantage, because a knee can hardly be caught by the wings until it has occurred.

Now, since only one pollinium is inserted into the stigmatic chamber, there is an economic disposal of the pollinia. The interval between the flexures is so great that only one of them can be caught, while the other passes by the slit uninjured. There are, therefore, two chances of a pollinium being transferred to another plant. If both pollinia were left at each act of pollination, there would be but one chance of cross fertilization. Moreover, the chances of cross fertilization would be reduced from the fact that the stigmatic chambers would be more nearly filled by pollinia from the same source, while if they are introduced singly, there are more chances of a chamber receiving a pollinium from a distinct plant.

As two pollinia are fastened together, there would be but one chance of pollination occurring if the pollinia were inserted by the corpuscula, while there are two chances of a knee being caught. When a pollinium has been removed, the broken retinaculum may be caught in a slit and remove a second corpusculum with its two pollinia. When this combination of two corpuscula and three pollinia is drawn over the angle of the wings, there are three chances of a pollinium being caught. Whenever a pollinium is removed, two new pollinia may be substituted for it, and a large combination of pollinia may result, arranged either in a unilateral series or dichotomously. In either case, the chances of the insertion of a pollinium equals the number of pollinia in the combination.

If the foot to which the first corpusculum of the combination is attached must enter the stigmatic chamber, of course there would be but one chance of pollination taking place without regard to the number of pollinia. Such an accident would be likely to destroy the whole combination. As already observed, on the large flowers of A. Sullivantii and A. Cornuti, the shorter hairs on the legs of insects are not readily caught, so that the number of parts to which the corpuscula may be attached are reduced to the minimum.

For instance, the only parts of the leg of a hive-bee which can remove the corpuscula of these species, are the two claws and the pulvillus. The leg will thus remove three corpuscula, and since these bodies render useless the parts to which they are attached, the broken retinacula not only take the place of the parts disqualified, but increase the number of parts to which the corpuscula can be attached. By means of these combinations, therefore, the leg of an insect has its capacity for carrying pollinia greatly increased...

Finally, I have seen the pollinia of A. Sullivantii introduced into the stigmatic chambers in the manner described. The pollinia and the entrance to the chamber in this species are very large and are easily seen, and hive-bees move so slowly in effecting pollination that, after a knee is caught, one can see the pollinium slowly disappear between the wings, so that there can be no doubt as to the manner of insertion. Commonly, however, the insertion of pollinia occurs so rapidly that it is impossible to see how it really happens. After a pollinium has been introduced into the chamber, hive-bees always have difficulty in breaking the retinaculum, and they lose their lives on account of this as well as on account of the difficulty in drawing their claws through the slit. When a foot is held by a retinaculum the pollinium is found in the chamber, with every indication that it was introduced by the knee.

Blackburn University, Chicago, Ill.

[The foregoing article was sent to us by Mr. J. M. Valentine, of Carlinville, Ills., being "advance sheets" of the *Botanical Gazette* for October, 1887. It will be read with great interest by those who heard the address of Prof. Cook at the Chicago convention on "The legs of the bee," and also by all who are interested in learning the relation which bees sustain to the blossom and the fruit. Mr. Robertson is professor of botany at the Blackburn University in this city.—ED.]

For the American Bee Journal.

Results of the Season of 1887.

J. M. CLARK.

I commenced the season of 1887 with 23 colonies in fair condition, which built up very strong during fruit bloom. The honey season opened very encouragingly, but from some cause, even before the drouth commenced, the honey-flow slackened up. White clover bloomed abundantly, but yielded very little honey. Basswood bloomed very full, but before we could realize its presence, it was gone. We were having quite a "bonanza" on sweet clover, there being about two acres of it. It is growing along one of the railroads, but just as we were exulting in our good fortune, the railroad officials had it all cut down.

The fall flowers yielded some very nice white honey after the rains commenced, but we did not get any buckwheat honey.

Now as to the results: I extracted 1,150 pounds of extra nice white honey, weighing nearly 13 pounds per gallon, for which I have been receiving an average of 11½ cents per pound; also 100 pounds of comb honey. I increased my apiary to 43 colonies, and doubled them back to 37 colonies. I fed 160 pounds of granulated sugar syrup. All of my colonies are packed in chaff on summer stands.

Some of my neighbor bee-keepers did much better than I. One harvested 2,000 pounds of comb honey from 27 colonies, spring count; but he sold it early at 12½ cents per pound. We have one very enthusiastic bee-keeper in this county, as the following incident will show:

He has great faith in "water-cure," was sick, and his father had him packed in wet blankets for a sweat. Just as the perspiration was nicely started, he looked out of the window and saw the bees swarming. He jumped up, throwing the blankets right and left, exclaiming, "Out of this, out of this;" and slipped into his clothes, and was out after the bees in less time than it takes me to write it.

Hillsdale, ♀ Mich., Dec. 6, 1887.

For the American Bee Journal.

Bee-Keeping in Missouri, etc.

JOHN BLODGET.

Some of my neighbors' bees swarmed out during the last warm spell; I suppose it was for the lack of food. My bees are packed away in chaff, as warm as can be. I have 10 colonies in good condition. Last spring I had 8 colonies, and have taken 15 pounds in all, which is a big yield for this year. I fed the 10 colonies 64 pounds of sugar.

I think there will be a good pasturage for next year, for the white clover came up thick where the drouth killed out the blue-grass, so what bees there is left will have plenty of food. Linden does fairly in this place, but it is two miles away, and we cannot depend upon that source for any great yield; but it helps. Heart's-ease yielded well while it bloomed, but the drouth killed it all out on the oats and wheat ground; so in all we had the most complete failure ever known to bee-men here.

Some say that it does not pay to keep bees. I would ask such faint-hearted bee-men, what does pay in such a year as the one just ending? All over this country the farmers have not raised any corn, and they are going to the railway stations, and paying 45 cents per bushel, where they usually have received 20 cents per bushel for corn. I do not think that there is one in fifty that will say it does not pay, and that they will quit the business. I believe that it would be better not to depend altogether upon bees, but if one does, it will pay the best for the money invested, of anything that he can do, if he has the "stick-to-it."

Empire Prairie, ♀ Mo., Nov. 27, 1887.

Local Convention Directory.

1887.	Time and place of Meeting.
Dec. 15.	Southeastern Michigan, at Adrian, Mich. A. M. Gander, Sec., Adrian, Mich.
1888.	
Jan. 7.	Susquehanna County, at New Milford, Pa. H. M. Seeley, Sec., Harford, Pa.
Jan. 10, 11.	Ontario, at Woodstock, Ont. W. Couse, Sec.
Jan. 11.	Nebraska State, at Lincoln, Nebr. Henry Patterson, Sec., Humboldt, Nebr.
Jan. 17,18.	N.W. Ills. & S. W. Wis., at Rockford, Ill. D. A. Fuller, Sec., Cherry Valley, Ills.
Jan. 17-19.	New York State, at Utica, N. Y. G. H. Knickerbocker, Sec., Pine Plains, N. Y.
Jan. 20.	Haldimand, at Cayuga, Ontario. E. C. Campbell, Sec., Cayuga, Ont.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER-BOX

Affliction of an Old Bee-Keeper.—Mr. Gust. Murhard, of Portland, ○ Oreg., on Dec. 1, 1887, writes:

Having not only by old age become disabled to attend to my bees, but having also, by the sudden death of my wife last June, lost all personal interest in anything, I am a retired man in apiculture, I feel sorry to say.

[Our condolence as well as that of the whole bee-fraternity is hereby tendered to our afflicted brother, while we say "good-by."—Ed.]

Bees Wintering Well, etc.—Jas. F. Johnson, Salem, ♀ Mo., on Dec. 5, 1887, says:

My bees are wintering well. The weather is mild and rainy. Would not "honey extracted from the comb," or "honey extracted," be better than the name as it is now used?

[No; as a name it would be entirely too long.—Ed.]

Market Reports of Honey.—J. M. Valentine, Carlinville, ⊙ Ills., on Nov. 26, 1887, writes:

I have read the item on page 723, in which Messrs. D. G. Tutt & Co., take exceptions to my statements in regard to their honey market report, as published in my article on page 697. All I have to say in reply is, that I *was* in D. G. Tutt & Co.'s business house in St. Louis, on Sept. 27, 1887, and inquired for honey in the comb, and also extracted honey (I may have asked for clover or fall honey). The gentleman who asked me if there was anything I wished, said that they had none on hand. Upon asking him if he could inform me where I could find some, he replied that he did not think I could find any. I may be mistaken about the California honey—it may have been at some other house where I saw that. I do not think that it would be any disgrace to the house, if they had a few cans and jars of California honey. It is nice.

As to their market quotations referred to, I will simply refer the readers to quotations on page 605 of the Bee Journal of Sept. 21, 1887. It will be found that I quoted it correctly.

[As we desired to end this controversy in this issue of the Bee Journal, we sent Messrs. Tutt & Co. a proof of the above, and asked them if they desired to make any reply to send it to us at once, and their reply is as follows:—Ed.]

In reply we can only repeat what we said in our former communication. We have no recollection of having seen or spoken to the gentleman. In regard to the quotations named—we have not that issue of the Journal before us, and hence we cannot answer intelligently.—D. G. Tutt & Co., St. Louis, Mo., Dec. 7, 1887.

Hardy Raspberries.—C. A. Bunch, La Paz, ♂ Ind., on Nov. 26, 1887, says:

I should be glad to have some Michigan bee-keeper tell through the Bee Journal of some kind of raspberries which will not winter-kill, and that will be first-class for bees to work on. I use the regular Langstroth frame, but think I shall make them hereafter only 9⅛x16¼, so that the crate will reach to the ends of the frames. How will it work?

[As to the raspberries, will some of our Michigan readers kindly reply.

We cannot approve of any change of the size of frames from the *standard* sizes. It makes confusion in buying and selling, as well as sometimes making it necessary to use odd size sections for surplus. If you stick to the size you now have (the Langstroth), we think you will never have just cause to regret it.—Ed.]

Colonies Rich for Winter, etc.—Theo. Johnson, Bower, ○ Nebr., on Dec. 5, 1887, writes:

I began with 70 good colonies last spring, and increased them about 25 per cent. The season was bad here, as elsewhere, so I have realized only about 1,000 pounds of honey in good condition for market; but I leave all my colonies rich for winter. Here in Nebraska our honey-flow for surplus is always in autumn; so with proper care we have no necessity of feeding for winter. Although I am working principally for comb honey, yet I think it wise in the late Chicago convention not meddling with the name "extracted." Had any other name been unanimously chosen, I surely would have accepted it. In connection with my apiary I have established a fishery, and now have a fine lot of fish. I think many apiarists would find it to their profit and pleasure to do likewise.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

Issued every Wednesday by

THOMAS G. NEWMAN & SON,
PROPRIETORS.

923 & 925 WEST MADISON ST., CHICAGO ILL.

At One Dollar a Year.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We receive letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

As there is Another firm in Chicago by the name of "Newman & Son," we wish our correspondents would write "American Bee Journal" on the envelope when writing to this office. Several letters of ours have already gone to the other firm (a commission house), causing vexatious delay and trouble.

We will Present Webster's Dictionary (pocket edition), and send it by mail, postpaid, for two subscribers with $2. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office or we will send them all to the agent.

Money Orders can now be obtained at the Post Offices at reduced rates. Five dollars and under costs now only 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them, and are in no way safe.

Simmins' Non-Swarming System.—We have received another shipment of these books, and have made such favorable terms, that we will now club them with the BEE JOURNAL for one year, both postpaid, for **$1.25.** We can supply all orders by **return mail.** The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

A Valuable Book Given Away.—We have made arrangements by which we can supply the AMERICAN BEE JOURNAL and the New York *World*—both weekly—for one year, for $2.10, and **present** the subscriber with **one of these books,** bound in Leatherette Free Calf:

HISTORY OF THE UNITED STATES—from 432 to 1887.—320 pages.—Price, $2.00.

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EVERYBODY'S BOOK—a treasury of useful knowledge.—410 pages.—Price, $2.00.

The extra 10 cents is for postage on the book, which must be selected by the subscriber at the time of sending the subscription, and cannot be afterwards exchanged.

The book selected will be mailed in a cardboard case, at the subscriber's risk; if lost it cannot be replaced. Be sure to write your name, post-office, county and State plainly, and then the risk of loss is very small. The subscriptions can commence at any time.

Remember, the amount is **$2.10** for both papers, and the Book and postage.

Enameled Cloth for covering frames, price per yard, 45 inches wide, 20 cents; if a whole piece of 12 yards is taken, $2.25; 10 pieces, $20.00; if ordered by mail, send 15 cents per yard extra for postage.

Preserve your Papers for reference. If you have no **BINDER** we will mail you one for 60 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

We have a large quantity of CHOICE WHITE **EXTRACTED HONEY,** in kegs holding from 200 lbs. to 225 lbs. each, which we will deliver on board the cars at **10 cents** per lb. Orders solicited.

Yucca Brushes are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. We can supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

We are sometimes asked who our authorized agents are. Every subscriber is such an agent; we have no others, and we greatly desire that each one would at least send in the name of one new subscriber with his own renewal for 1888. The next few weeks is the time to do this. We hope every subscriber will do his or her best to double our list of subscribers.

We pay 20 cents per pound, delivered here, for good Yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

We have a few Sets of the BEE JOURNAL for the present year, and can fill orders until further notice, for all the numbers from the first of last January. New subscribers desiring these **back numbers,** will please to state it plainly, or they will not be sent.

OUR CLUBBING LIST.

We supply the **American Bee Journal** one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	Club
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 45
Bee-Keepers' Guide	1 50	1 40
The Apiculturist	2 00	1 80
Canadian Bee Journal	2 00	1 80
The 6 above-named papers	5 00	4 50
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 30
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90

One yearly subscription for the AMERICAN BEE JOURNAL must be ordered with each paper or book, in order to take advantage of the prices named in the last column.

To All New Subscribers for 1888 we will present the remaining numbers of 1887—over a year's subscription to the oldest and best bee-paper in America for **only $1.00!** No investment will repay such excellent dividends to a bee-keeper, as a year's subscription to the AMERICAN BEE JOURNAL. Subscribe *now*, and get the rest of the numbers of this year **free.** The sooner you subscribe the more you will receive for your money.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now *so cheap* that no one can afford to do without it. We will present a **Binder** for the BEE JOURNAL to any one sending us three subscriptions—with $3.00—direct to this office. It **will pay** any one to devote a few hours, to get subscribers.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.

We Supply Chapman Honey-Plant seed at the following prices: One ounce, 40 cts; 4 ounces, $1; ¼ pound, $1.75; 1 lb., $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Should any Subscriber receive this paper any longer than it is desired, or is willing to pay for it, please send us a postal card asking to have it stopped. Be sure to write your name and address plainly. LOOK AT YOUR WRAPPER LABEL.

Red Labels for one-pound pails of honey, size 3x4¼ inches.—We have now gotten up a lot of these Labels, and can supply them at the following prices: 100 for $1.00; 250 for $1.50; 500 for $2.00; 1,000 for $3.00; all with name and address of apiarist printed on them—by mail, postpaid.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lb. sections 20@21c.; 2-lbs., 18@19c.; dark 1-lbs. 17@18c.; 2-lbs. 15@16c. Extracted, firm at 7½@10c., depending upon the quality and style of package. Receipts are somewhat heavier, and when sold in a jobbing way prices must be shaded from 1 to 2 cts. per lb.
BEESWAX.—22@23c.
Nov. 8. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—Prices range from 18@20c. for best grades, with light demand: 2-lb. sections, 15@16c. Dark is not wanted. Extracted is steady at 7@10c., according to style of package.
BEESWAX.—20@22c. R. A. BURNETT,
Dec. 7. 161 South Water St.

DETROIT.

HONEY.—Best white in 1-lb. sections, 17@19c. Extracted, 9@10c. Demand fair.
BEESWAX.—21@23c.
Nov. 21. M. H. HUNT, Bell Branch, Mich.

CLEVELAND.

HONEY.—Best white 1-lbs. sell readily at 19@20 cts.; 2-lbs., 17@18c. White clover extracted, 8c.
BEESWAX.—25c.
Oct. 24. A. C. KENDEL, 115 Ontario St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb 16@18c.; amber, 10@14c. Extracted, light amber, 6@6½c.; amber, dark and candied, 5½@5¾c.; extra white would bring 7½c., but none is in the market.
BEESWAX.—19@22c.
Oct. 3. O. B. SMITH & CO., 423 Front St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 17@19c.; the same in 2-lbs., 15@16c.; buckwheat 1-lbs., 12@14c.; 2-lbs., 10@12c. Off grades 1@2c. per lb. less. White extracted, 8@9c.; buckwheat, 5½@6c.; Southern, per gallon, 60@70 cts.—Market seems to be unsettled.
BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Sept. 20. 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote new crop: Choice white 2-lb. sections, 16@18c.; dark 2-lbs., 15@16c.; choice white 1-lbs., 20@22c.; dark 1-lbs., 15@17c. White extracted, 6½@7c.; dark, 5@6c. Demand good, but light supply.
BEESWAX.—21 to 22c.
Nov. 23. HAMBLIN & BEARSS, 514 Walnut St.

KANSAS CITY.

HONEY.—We quote: Choice white 1-lbs., 20c.; dark, 15@16c.; choice white 2-lbs., 18c.; dark, 14c. Extracted, 8@10c. California—white 1-lbs., 18c.; dark, 15c.; white 2-lbs., 16@18c.; dark, 14@15 cts. White extracted, 9c.; amber, 8c. Supply fair.
BEESWAX.—No. 1, 22c.; No. 2, 18c.
Oct. 6. CLEMONS, CLOON & CO., cor 4th & Walnut

ST. LOUIS.

HONEY.—Choice comb, 15@18c.; latter price for choice white clover in good condition. Strained, in barrels, 4½@5c. Extra fancy, of bright color and in No. 1 packages, ½-cent advance on above. Extracted, in bbls., 5½@6c.; in cans, 6½ to 8c.—Short crop indicates further advance in prices.
BEESWAX.—20½c. for prime.
Oct. 21. D. G. TUTT & CO., Commercial St.

CINCINNATI.

HONEY.—We quote extracted at 3½@8c. per lb. Choice comb, 18@20c., in the jobbing way. The demand is fair for honey of all kinds, and keeps pace with arrivals.
BEESWAX.—Demand good—20@22c. per lb. for good to choice yellow, on arrival.
Nov. 10. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17@19c.; fancy 2-lbs., 15@16c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10 to 11c. Extracted, white, 9@10c.; buckwheat, 6 to 7c. Market firm.
Nov. 22. F. G. STROHMEYER & CO., 122 Water St

PHILADELPHIA.

HONEY.—Fancy white 1-lbs., 19@20c.; fair 1-lbs. 18c.; fancy 1½-lbs., 18c. No sale yet for dark.—Extracted, California, 8c.; Cuba strained, 68@70c. per gallon.
BEESWAX.—24@25c.
Oct. 10. ARTHUR TODD, 2122 N. Front St.

MILWAUKEE.

HONEY.—Choice white 1-lbs., 19@20c.; 2-lbs., 18 to 19c.; fancy white might bring 21@22c. White extracted in barrels or half-barrels, 8@8½c.; in kegs, 8½@9c.; in cans or pails, 9@10c.; dark in kegs and barrels, 6½@7c. Demand good.
BEESWAX.—22@25c.
Oct. 26. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15@18c.; amber, 10@13c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@6½c. Market quiet.
BEESWAX.—20@24c.
Dec. 3. SCHACHT & LEMCKE, 122-124 Davis St.

BOSTON.

HONEY.—New crop, 1-lb. sections, 18@20c.; 2-lb. sections, 17@18c. Extracted, 6@8c. The market is not very brisk.
BEESWAX.—25 cts. per lb.
Nov. 21. BLAKE & RIPLEY, 57 Chatham Street.

Convention Notices.

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The next meeting of the Nebraska State Bee-Keepers' Association will be held on Jan. 11, 1888, at Lincoln, Nebr.
HENRY PATTERSON, *Sec.*

☞ The Southeastern Michigan Bee-keepers' Association will hold its annual meeting in the Supervisor's room in the Court House at Adrian, Mich., on Dec. 15, 1887. A. M. GANDER, *Sec.*

☞ The annual meeting of the Northwestern Illinois and Southeastern Wisconsin Bee-Keepers' Association will be held in G. A. R. Hall, corner of State & North Main sts., in Rockford, Ills., on Jan. 17 and 18, 1888. Dr. Miller will be present, and a good programme is in course of preparation.
D. A. FULLER, *Sec.*

Don't do it!—Notwithstanding our many cautions, some persons still persists in sending silver in letters. In nine cases out of ten it will break the envelope and be either lost or stolen. Cases come to light nearly every day, showing that silver sent in letters stops somewhere on the way. It is an invitation to the thief—a regular **temptation!** If you wish to *safely* send money, get a Post-Office Money Order, Express Order, or Bank Draft on Chicago or New York. When money is sent in either of the above-named ways, it is at our risk. In any other manner, it is at the risk of the sender.

New Subscribers can obtain the full numbers for 1887 and 1888 for $1.80, as long as we have any sets of 1887 left. There are only a few, and to get them an early application will be necessary.

Advertisements.

WANTED.—WORK, by a Bee-Man who understands the business.
FRANK CURL,
47Atf (Lock Box 64), East St. Louis, Ills.

HOW TO RAISE COMB HONEY,
PRICE 5 cents. You need this pamphlet, and my free Bee and Supply Circular. 31Atf
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Address J. H. MARTIN,
4A1y HARTFORD, Washington Co., N.Y.

THE BEE-KEEPERS'
REVIEW.

ABOUT Jan. 10, 1888, we shall begin the publication of a 16-page monthly having the above title.

As indicated by its name, one of its distinctive features will be the **reviewing** of current apicultural literature. Errors and fallacious ideas will be faithfully but courteously pointed out, while nothing valuable will be passed unnoticed. But few articles will be copied entire, but the ideas will be extracted, given in the fewest words possible, and commented upon when thought advisable.

Another feature will be that of making each number, to a certain extent, what might be termed a "special" number. For instance a large share of the correspondence, editorials and extracts of the first number will be devoted to the subject of, "Disturbing Bees in Winter."

Our own apiary will, hereafter, be largely experimental, and of this our readers will have the benefit.

The price of the **REVIEW** will be 50 cts. per year; and while we have not the slightest objection to receiving subscriptions in advance, our only request is, that each one interested will send his address, and allow Uncle Sam to hand him a copy of the first issue as soon as it is printed.

The Production of Comb Honey,

A neat little book of 45 pages, price 25 cts. The **Review** and this book for 65 cents. Stamps taken, either U. S. or Canadian.

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50Atf FLINT, MICHIGAN.

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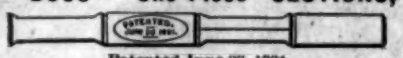

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High Side Walls, 4 to 14 square feet to the pound. Wholesale and Retail. Circulars and Samples free
J. VAN DEUSEN & SONS,
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A Year among the Bees,
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A Talk about some of the Implements, Plans and Practices of a Bee-keeper of 25 years' Experience, who has for 8 years made the Production of Honey his Exclusive Business.
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Price, 75 cents, by mail. This is a new work of about 114 pages, well-printed and nicely bound in cloth. Address,
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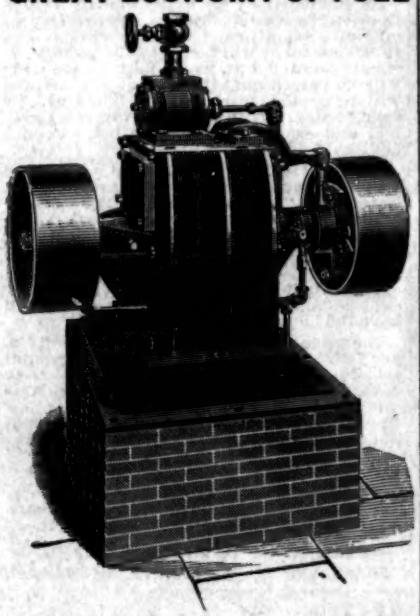

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44Atf CEDAR RAPIDS, IOWA.

Dadant's Foundation Factory, wholesale and retail. See advertisement in another column.

EXCELSIOR HONEY EXTRACTORS

In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, we have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches		$8 00
For 2 Langstroth	"	10x18	"	8 00
For 3 "	"	10x18	"	10 00
For 4 "	"	10x18	"	14 00
For 2 frames of any size,	13x20	"		12 00
For 3 "	"	13x20	"	12 00
For 4 "	"	13x20	"	16 00

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More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1.25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1A1y Agricultural College, Mich.

SPECIAL DISCOUNT ON HIVES.

In order to keep our Hive-Factory running during the dull season, we will make a **DISCOUNT of 10 PER CENT,** on Langstroth Hives, Cases, Frames, Shipping-Crates and Bee-Feeders, received before Jan. 1, 1888.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See advertisement in another column

☞ **If you wish to obtain the Highest Price for Honey this Season, write to Headquarters, 122 Water-street, New York,**

F. G. STROHMEYER & CO.,
Wholesale Honey Merchants.

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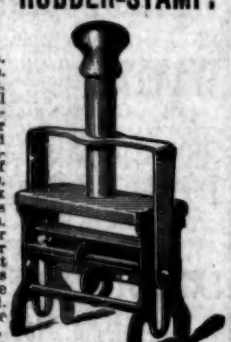

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